DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	POTANIPO POND	Lake Area (ha):	68.80
Town:	BROOKLINE	Maximum depth (m):	7.6
County:	Hillsborough	Mean depth (m):	4.1
River Basin:	Merrimack	Volume (m^3):	2823000
Latitude:	42°44'25" N	Relative depth:	0.8
Longitude:	71°40'40" W	Shore configuration:	1.00
Elevation (ft):	263	Areal water load (m/yr):	43.84
Shore length (m):	2900	Flushing rate (yr^{-1}):	10.70
Watershed area (ha):	6267.8	P retention coeff.:	0.38
% watershed ponded:	0.1	Lake type:	natural w/dam

BIOLOGICAL:		24 February 1992	6 August 1991
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 50%	DINOBRYON 50%
	#2	DINOBRYON 35%	CHRYSOSPHAERELLA 40%
	#3	(ALL ALGAE SPARSE)	
PHYTOPLANKTON ABUNDANCE (cells/mL)			585
CHLOROPHYLL-A (µg/L)			7.09
DOM. ZOOPLANKTON (% TOTAL)	#1	NONE OBSERVED	KERATELLA 29%
	#2		KELLICOTTIA 24%
	#3		POLYARTHRA 12%
ROTIFERS/LITER		<1	556
MICROCRUSTACEA/LITER		<1	237
ZOOPLANKTON ABUNDANCE (#/L)		<1	818
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			3.3
BOTTOM DISSOLVED OXYGEN (mg/L)		7.9	0.3
BACTERIA (fecal col., #/100 ml)	#1		< 10
	#2		< 10
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	3.9
Hypolimnion volume (m^3) :	250000
Anoxic volume (m^3) :	650000

CHEMICAL:

Lake: POTANIPO POND
Town: BROOKLINE

	24 February 1992		6 August 1991		
DEPTH (m)	2.5	5.0	2.0	4.5	7.0
pH (units)	5.7	5.9	6.6	5.8	6.4
A.N.C. (Alkalinity)	2.0	2.2	3.5	3.1	11.7
NITRATE NITROGEN	0.04	0.04	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.010	0.008	0.011	0.016	0.026
CONDUCTIVITY (μmhos/cm)	33.0	34.4	33.7	33.3	49.4
APPARENT COLOR (cpu)	22	21	38	43	90
MAGNESIUM			0.40		
CALCIUM			1.7		
SODIUM			3.5		
POTASSIUM			< 0.40		
CHLORIDE	4	4	4		3
SULFATE	5	5	3		2
TN : TP					
CALCITE SATURATION INDEX			3.9		

All results in mg/L unless indicated otherwise

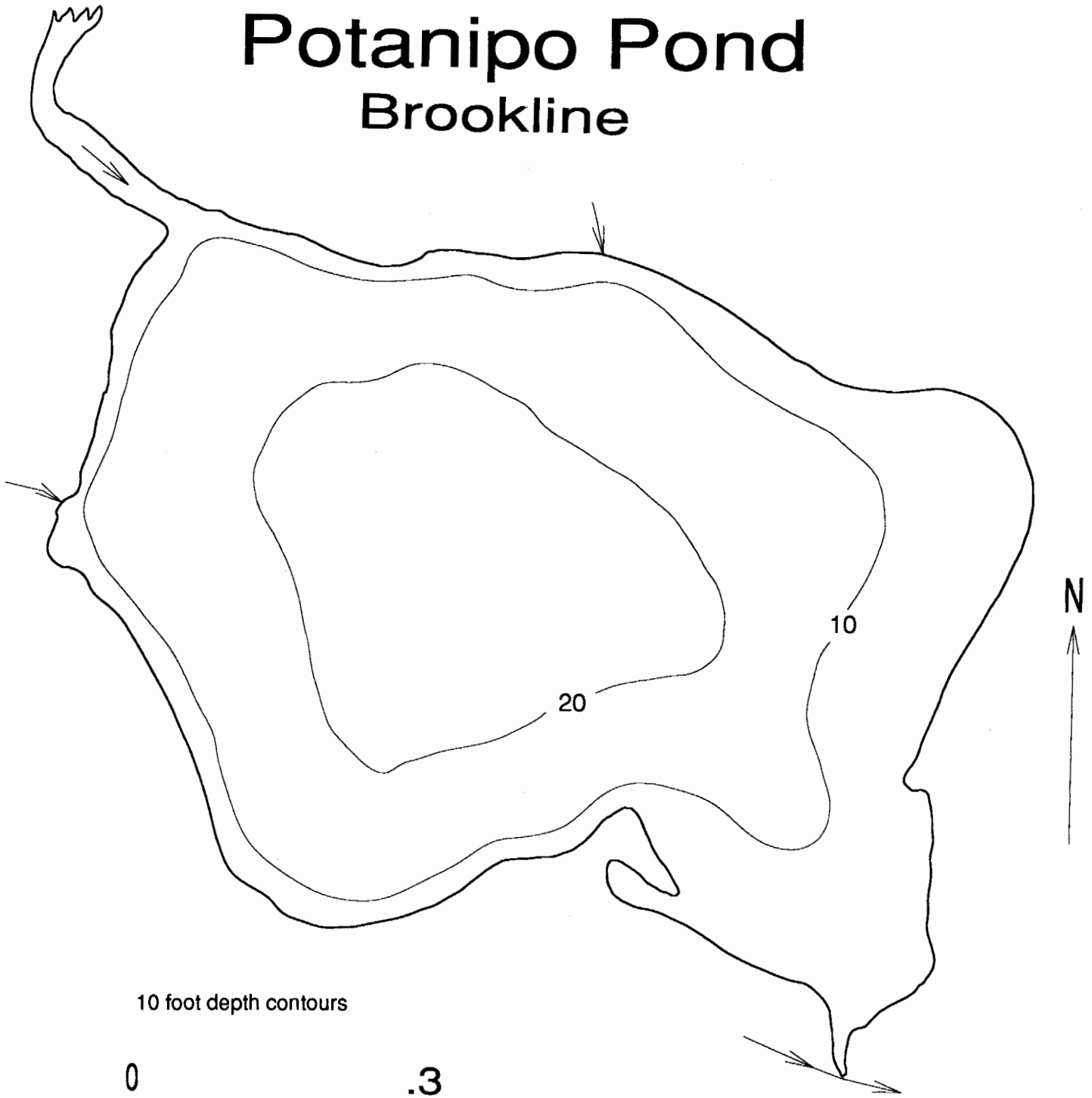
TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	2	4	1	11	Meso.

COMMENTS:

1. Also known as Potanopa Pond.
2. This pond was previously surveyed and classified in 1979. The classification changed from eutrophic in 1979 to mesotrophic in 1991. The major change in water quality was a halfing of the chlorophyll level, from 14 mg/m^3 in 1979 to 7 mg/m^3 in 1991.
3. Town boat launch site; no parking available.
4. Blue-greens (50%) and greens (25%) were the dominant classes of wholewater plankton. The dominant genera were Merismopedia (50%) and Sphaerocystis (10%).

Potanipo Pond
Brookline



FIELD DATA SHEET

LAKE: POTANIPO POND
TOWN: BROOKLINE
DATE: 08/06/91
WEATHER: MOSTLY CLOUDY; 70'S

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	23.1	7.5	87 %
	1.0	23.1	7.5	87 %
	2.0	23.0	7.4	86 %
	3.0	23.0	7.2	84 %
	4.0	17.0	0.3	3 %
	5.0	12.5	0.3	3 %
	6.0	11.1	0.3	3 %
	7.0	10.8	0.3	3 %
	7.5	10.5	0.3	3 %

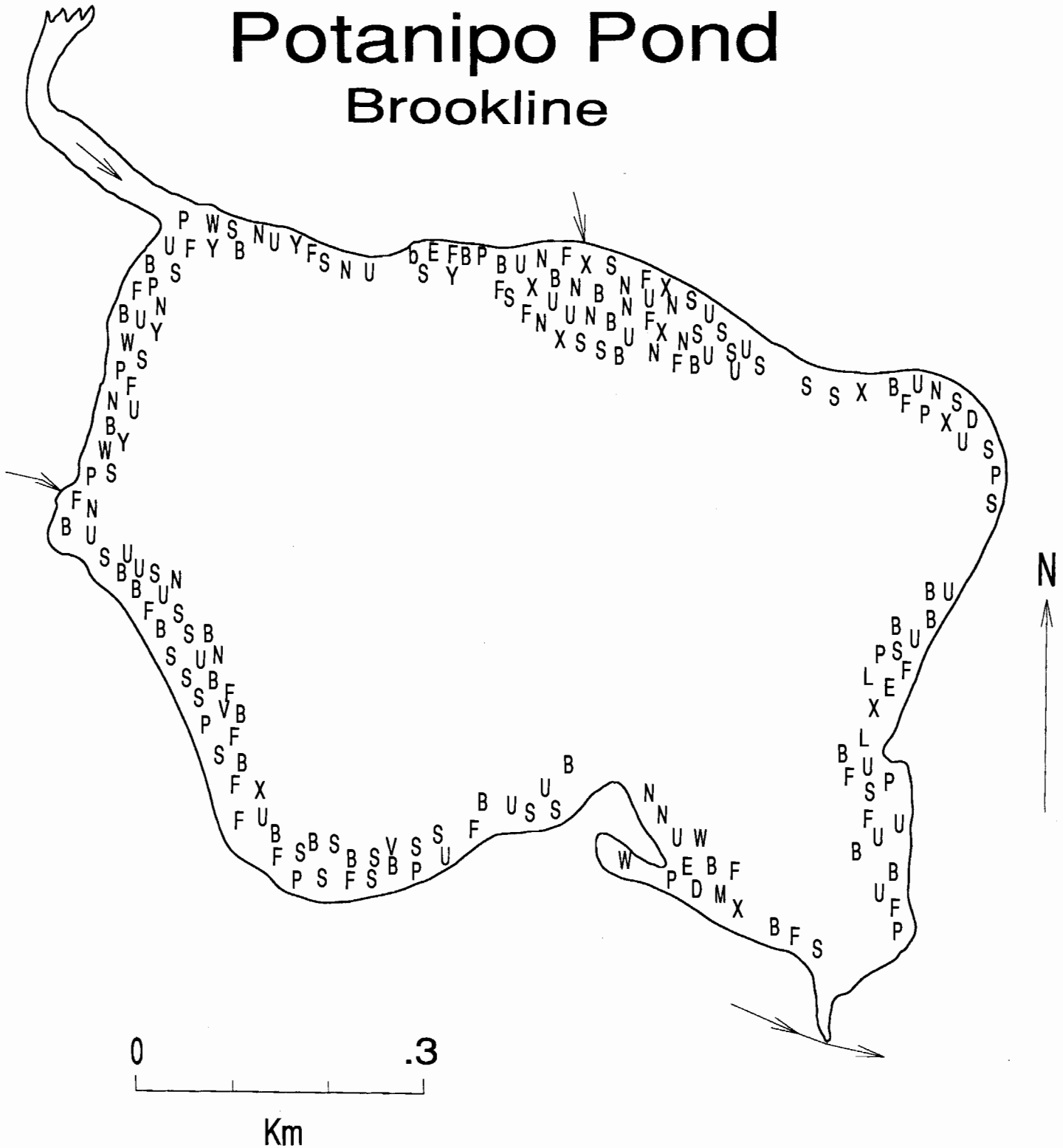
SECCHI DISK (m): 3.3
BOTTOM DEPTH (m): 7.6
TIME: 1145

COMMENTS:

*Dissolved oxygen values are in mg/L

Potanipo Pond

Brookline



AQUATIC PLANT SURVEY

LAKE: POTANIPO POND TOWN: BROOKLINE DATE: 08/06/91

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
B	Brasenia schreberi	Water shield	Common
V	Vallisneria americana	Tape grass	Sparse
U	Utricularia	Bladderwort	Common
F	Nymphoides cordatum	Floating heart	Scat/Common
N	Nymphaea	White water lily	Common
P	Pontederia cordata	Pickerelweed	Scat/Common
S	Sparganium	Bur reed	Common
W	Potamogeton	Pondweed	Common
X		Sterile thread-like leaf	Common
L	Lobelia dortmanna	Water lobelia	Sparse
Y	Nuphar	Yellow water lily	Scattered
E	Eriocaulon septangulare	Pipewort	Scattered
b	Scirpus	Bulrush	Scattered
D	Decodon verticillatus	Swamp loosestrife	Scattered
M	Myriophyllum	Water milfoil	Sparse

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

1. Plant growth was thick around most of the shoreline, except in swimming and boat docking areas where they were cleared away.

2. Bottom growth was heavy in places with bladderwort and sterile, thread-like plants.

3. One small patch of milfoil was observed -- not the exotic species.